WHAT IS CLAIMED IS:

1. An apparatus for automatic router configuration, comprising:

a connector configured to provide a connection port to a data circuit terminating equipment (DCE);

a multi-protocol transceiver coupled to the connector and configured to transmit and receive a plurality of protocol signals through the connector;

a CPU having a serial communication control function coupled to the multi-protocol transceiver to process data according to the communication environment of a connection network; and

a programmable logic device (PLD) coupled to sense a change in a connection state of the connector through a prescribed control line and to transfer the sensed information to the CPU.

2. The apparatus of claim 1, wherein the prescribed control line comprises an interrupt request (IRQ) signal line, an acknowledgment (ACK) signal line, a chip select (CS) signal line, a protocol mode line, and a cable state sensing line.

3. The apparatus of claim 2, wherein the IRQ signal line, the ACK signal line, and the CS signal line are coupled between the PLD and the CPU, and wherein the protocol mode line and the cable state sensing line are coupled between the PLD and the connector.

4. The apparatus of claim 2, wherein the IRQ signal line and the ACK signal line comprise a control line to carry information to the CPU indicating a change in the connection state of the connector, wherein the state is one of connection and disconnection.

5. The apparatus of claim 1, wherein the PLD uses a pull-up resistor to sense a connection and disconnection state of the connector.

6. The apparatus of claim 1, wherein the PLD uses a pull-up resistor to determine a hardware protocol.

7. The apparatus of claim 1, further comprising a transient voltage suppressor (TVS) coupled to absorb an electric shock generated upon connecting or disconnecting the connector with a corresponding receptacle.

8. A method of automatically configuring a router, comprising:

sensing a change in a connection state of a connector between a router and a data circuit terminating equipment (DTE);

transferring sensing information to an internal CPU if a change in the connection state of the connector is sensed; and

initializing parts of the router and normalizing communication environments based on the sensing information.

9. The method of claim 8, wherein sensing the change in the connection state of the connector comprises:

sensing a change of a connected or disconnected state of the connector; and

determining a hardware protocol if the state of the connector has been changed.

10. The method of claim 9, wherein the connected state is determined by a low logic state of a prescribed connection pin of the connector, and the disconnected state is determined by a high logic state of the prescribed connection pin of the connector.

11. The method of claim 9, wherein a programmable logic device (PLD) senses the change of state and transfers the sensed information to the CPU.

12. The method of claim 11, wherein the PLD uses a pull-up resistor to sense the connection and disconnection states of the connector.

13. The method of claim 11, wherein the PLD uses a pull-up resistor to determine a hardware protocol.

14. The method of claim 8, wherein transferring the sensing information to the internal CPU comprises:

transmitting an interrupt request (IRQ) signal to the CPU if the change in the connection state of the connector is sensed;

sending an acknowledgment signal from the CPU and requesting that a hardware protocol mode value be transmitted to the CPU; and

transmitting a protocol connection mode value to the CPU.

15. The method of claim 14, wherein a programmable logic device sends the IRQ signal and the protocol connection mode value to the CPU.

16. A method of automatic router configuration, comprising:

sensing a connection and disconnection state of a connector configured to connect to a data circuit terminating equipment (DCE) by a programmable logic device (PLD);

determining a hardware protocol if a change in the state of the connector is sensed;

sending an interrupt request signal to a CPU to inform the CPU of the change in the state of the connector;

sending a response to the interrupt request signal from the CPU to the PLD to request the PLD to send a hardware protocol mode value to the CPU;

transmitting the hardware protocol mode value from the PLD to the CPU; and

initializing parts of the router and normalizing a communication environment based on the stated information.

17. The method of claim 16, wherein the hardware protocol is determined by at least one of the PLD and the CPU.

18. The method of claim 16, further comprising absorbing an electrical shock generated during connection and disconnection of the router.

19. The method of claim 16, wherein the router is configured to automatically sense a change in hardware protocol without switching off the power to the router.

20. A data terminal equipment (DTE) device, comprising:

a connector configured to provide a connection port to a data circuit terminating equipment (DCE);

a multi-protocol processor coupled to the connector and configured to transmit and receive two or more protocol signals through the connector and to initialize parts of the DTE after a connection of the connector to the DCE while power to the DTE is maintained; and

a CPU having a serial communication control function coupled to the multi-protocol processor to process data according to the communication environment of a connection network.

21. The device of claim 20, wherein the multi-protocol processor comprises:

a multi-protocol transceiver to transmit and receive signals through the connector; and

a connection discrimination unit to initialize parts of the DTE based on the connection state of the connector.

22. The device of claim 21, wherein the connection discrimination unit comprises:

a programmable logic device (PLD) coupled to receive connection state and hardware protocol information from the connector and transmit an interrupt request (IRQ) signal to the CPU in accordance with the state and protocol information.

23. The device of claim 22, wherein the PLD further transmits a protocol mode value to the CPU after receiving an acknowledgment to the IRQ from the CPU.

24. The device of claim 22, wherein a first pull-up resistor is used to determine the hardware protocol information, and wherein a second pull-up resistor is used to determine the connection state.

25. The device of claim 22, wherein the connection discrimination unit further comprises a transient voltage suppressor, coupled to the connector to absorb an electrical shock generated upon connecting the connector during operation of the DTE.

26. The device of claim 22, wherein the PLD is coupled to the connector using a protocol mode line and a state sensing line, and wherein the PLD is coupled to the CPU using an IRQ signal line, an ACK signal line, and a data line.

27. The device of claim 20, further comprising at least one resistor coupled between the connector and the multi-protocol processor to sense at least one of a state of a cable between the connector and the multi-protocol processor and a protocol mode.